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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,766	07/14/2003	Jong-Sung Peak	253/027	4047
27849	7590	10/30/2007		
LEE & MORSE, P.C. 3141 FAIRVIEW PARK DRIVE SUITE 500 FALLS CHURCH, VA 22042			EXAMINER YUAN, KATHLEEN S	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 10/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/617,766

Applicant(s)

PEAK, JONG-SUNG

Examiner

Kathleen S. Yuan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-12 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 19 is/are rejected.
- 7) ☒ Claim(s) 1,2,5,7-12,20-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The response received on 8/30/2007 has been placed in the file and was considered by the examiner. An action on the merit follows.

#### ***Response to Amendment***

1. The amendment filed on 30 August 2007 have been fully considered. Response to these amendments is provided below.

#### **Summary of Arguments/Amendments and Examiner's Response:**

2. The applicant has amended independent claim 4 to include new limitations as shown in the claim listing submitted on 8/30/2007.

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Objections***

4. Claim 5 is objected to because of the following informalities: Claim 5 states "the image data are captured", when image data is a singular noun, thus it "is captured".

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 2 is rejected because of the language "at about four or more times the first magnification." It is unclear what is "about" four or more times the first magnification. The language leads the examiner to believe that a magnification fewer than four is applicable to the claim because about four is not equivalent to four, leading to unclear language.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 4 and 20 are rejected under 35 U.S.C. 102(b) as being unpatentable by U.S. Patent No. 6072915 (Tanaka).

10. Regarding claim 4, Tanaka discloses a method for recognizing a pattern of an alignment mark on a wafer, the method comprising: providing the wafer into a measurement apparatus (fig. 7); capturing image data corresponding to a first alignment mark region of the wafer (col. 1, lines 55- 56); determining a shape of an alignment mark, the shape of a cross (col. 1, lines 47-52), which is within the first alignment mark

region, since the first alignment mark region contains the alignment mark; extracting an alignment mark pattern by a pattern recognition of the captured image data (col. 1, lines 61-62, col. 2, lines 26-30); and establishing the extracted alignment mark pattern as a reference mark, since when recognized as a search pattern, the mark is considered the search pattern which is the alignment mark(col. 2, lines 9-11), wherein the pattern recognition is performed on a subset of the captured image data corresponding to the shape of the alignment mark (col. 1, lines 60-62).

11. Regarding claim 20, the subset of captured image data corresponds to a cross shape (fig. 3a and 8a)

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, as applied to claim 4 above, and further in view of U.S. Patent No. 6278957 (Yasuda et al).

Regarding claim 19, Tanaka discloses all of the claimed elements as set forth above, and incorporated herein by reference.

Tanaka does not disclose expressly that the subset of the captured image data corresponds to a window frame shape.

Yasuda et al discloses a key alignment mark that has a window frame shape (fig. 6b).

Tanaka and Yasuda et al are combinable because they are from the same field of endeavor, i.e. alignment.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a window shape pattern for the alignment mark.

The suggestion/motivation for doing so would have been to provide a more accurate system by providing a specific type of mark that is efficient in a certain type of system (Yasuda et al, col. 22, lines 55-60), thus providing a more robust method.

Therefore, it would have been obvious to combine the method of Yasuda with the key alignment mark of Yasuda et al to obtain the invention as specified in claim 19.

### ***Allowable Subject Matter***

14. Claims 1, 2, 5, 7-12, 21 and 22 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claim 1 contains allowable subject matter. Claim 1 contains limitations regarding the deleting of the subset of captured data that corresponds to a portion of the first alignment mark that surrounds the alignment mark.

### ***Conclusion***

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16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen S. Yuan whose telephone number is (571)272-2902. The examiner can normally be reached on Monday to Thursdays, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KY  
10/24/2007

  
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